

REMARKS

As a preliminary matter, applicants thank the Examiner for participating in a telephone conference on September 8, 2006, in which the Examiner clarified the rejection of claim 1 set forth in the Office action. In particular, the Examiner asserted that it would have been obvious for one of ordinary skill in the art to modify the Li patent (U.S. Patent No. 6,606,706) to include sequence numbers from OSPF version 2, RFC 2328 (“the OSPF reference”).

Claims 1-30 were rejected under 35 U.S.C. §103(a) as unpatentable over the Li patent in view of the OSPF reference. Applicants disagree and respectfully request reconsideration of those rejections for at least the following reasons.

The Li patent discloses a multicast data communications network that is partitioned into multiple, hierarchical security domains and sub-domains in which each sub-domain includes routers, switches and nodes, *i.e.*, group members (col. 4, lines 15-20; col. 5, lines 19-23). Each security domain also includes a security broker that is responsible for acquiring a secure group key from a higher level security domain and distributing that key to the group members in its own security domain (col. 4, lines 21-29) such that multicast data packets may be transmitted among members of the group with reduced latency (col. 4, lines 60-65).

When a member wishes to join or leave a secure multicast session, the member submits a Group Request message to the local security broker (col. 9, lines 8-27). The security broker returns a Group Reply with a group key, if the member wishes to join the session, or, if the member wishes to leave, the security broker simply returns a Group Reply with the same information as in the Group Request (col. 10, lines 49-63). The Group Request contains the intended lifetime, identification and group address (col. 10, lines 43-45). A lifetime of zero indicates the message originator intends to join the secure multicast session while a lifetime that is not zero indicates the message originator intends to leave the secure multicast session (col. 11, lines 49-56). The Li patent does not, however, disclose or suggest “a first sequence identifier” and “a second sequence identifier” as recited in claim 1. The Office action relies on the OSPF reference for those features.

The OSPF reference discloses using sequence numbers to detect old and duplicate link state advertisements. Each time a router originates a new instance of a link state advertisement, the sequence number is incremented such that the larger the value of the sequence number, the more recent is the link state advertisement (pg. 120).

Given that the Li reference discloses that security domains are “defined in accordance with routing domains...such as OSPF” (col. 3, lines 64-67), the Office action asserts that it would have been obvious to one of ordinary skill in the art to replace the message lifetime of the Li patent with the sequence number taught by the OSPF reference in order to obtain the “first sequence identifier” and “second sequence identifier” as recited in pending claim 1. Applicants respectfully disagree.

It would not have been obvious to one of ordinary skill in the art nor would it have made any sense to replace the message lifetime of the Li patent with a sequence number as defined by the OSPF reference. As discussed above, the sequence numbers of the OSPF reference are used to detect old and duplicate link state advertisements whereas the message lifetimes of the Li patent indicate whether or not the originator of a Group Request message intends to join or leave a multicast session. Clearly, the function and intended use of message lifetimes, as disclosed in the Li patent, are entirely different and separate from the function and intended use of sequence numbers in the OSPF reference. In addition, neither the OSPF reference nor the Li patent discloses or suggests, in any way, a relation or association between a message lifetime and a sequence number of a link state advertisement. Indeed, if the sequence numbers of the OSPF reference were included in place of the message lifetimes in the Li patent, the security system disclosed in the Li patent would fail to operate because Group Requests would not be processed correctly.

Applicants further submit that additional assertions made by the Office action are incorrect. In particular, the Office action alleges that column 10, lines 6-13 and col. 11, lines 27-33 of the Li patent disclose the claimed first message containing a digest of routing information that has been calculated using a first authentication key. Applicants respectfully disagree. Column 10, lines 6-13 of the Li patent disclose a group controller 111 within the network 10 which broadcasts a Rekey Announcement to the primary regional security broker of the network. The Rekey Announcement includes the address and signature of the group controller and

appends the addresses and signatures of additional security brokers as it is forwarded downstream as multicast data. On the other hand, column 11, lines 27-33 of the Li patent discloses that a security broker sends a Group Refresh message to each member in its local security domain, in which the Group Refresh message contains a group key for an upper level security domain that is encrypted using a shared private key. Clearly, the two sections of the Li patent are referring to different messages sent within the network which include entirely different information. Neither message includes a digest of routing information that has been calculated using a first authentication key. Although the Group Refresh message uses a shared private key for encryption, it does not contain a digest of routing information. Similarly, although the Rekey Announcement includes the addresses of each security broker that receives the announcement, the addresses are not calculated using a first authentication key. Moreover, neither the Rekey Announcement nor the Group Refresh message includes the claimed first sequence identifier or even a message lifetime, which the Office action asserts is an obvious variation of a sequence number.

At least for the foregoing reasons, independent claim 1 should be allowed.

Claims 2-8 depend from claim 1 and, therefore, should be allowable for at least the same reasons as claim 1.

Independent claims 9, 14, 20, 25, 27 and 29 also recite a first message containing a first sequence identifier and a digest of routing information that has been calculated using a first authentication key. Accordingly, those claims should be allowable for at least the same reasons discussed above with reference to claim 1.

Claims 10-13, 15-19, 21-24, 26, 28 and 30 respectively depend from allowable claims and, therefore, should be allowable for at least the same reasons as the claims from which they depend.

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Assignee: Intel Corporation

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper.

No fee is believed to be due. However, please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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